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## STUDENT REPORT

THE 86th TACTICAL FIGHTER WING:  
THE FIRST TWENTY YEARS

MAJOR PHILLIP C. MILLER, JR.

87-1760

*"insights into tomorrow"*

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**AUTHOR(S)** MAJOR PHILLIP C. MILLER, JR., USAF

**FACULTY ADVISOR** MAJOR C. PALMER VOYLES, ACSC/3824 STUS

**SPONSOR** MR. R. CARGILL HALL, HQ USAFHRC/RI

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<p>→ The 86th Tactical Fighter Wing (TFW) is stationed in West Germany and is available as an active North Atlantic Treaty Organization asset for defense of the free world. This paper examines the first twenty years of its existence as a combat wing (1948 to 1968), and discusses the four time periods of that twenty years as represented by each of the first four weapon systems the 86th used: the F-47, F-84, F-86, and F-102. The four chapters covering these time periods further examine the operational efforts, maintenance and supply concerns, and community relations achievements by the 86th during the respective time periods. The paper concludes by observing that the 86th TFW is like many other Air Force units charged with defending freedom--not combat-tested, but ready to act if called upon.</p>					
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## PREFACE

The 86th Tactical Fighter Wing is one of the world's most formidable protectors of freedom. Active as an asset available to the North Atlantic Treaty Organization (NATO), the 86th continues to project the strength and determination found in our front line units located around the world. As with many Air Force units, the 86th has never fired a shot in anger, and the percentage of personnel with combat experience is rapidly dwindling. The 86th prepares for the unpleasant possibility of war by constantly training its air and ground crewmembers. This training sharpens their warfighting skills, but has also taken its toll in the lives of crewmembers lost in training and flying accidents.

This paper examines the first twenty years of the 86th, from its activation on 1 July 1948 through its inactivation on 14 November 1968 (The unit is still in existence today, having been reactivated on 1 November 1969). The paper is divided into four chapters addressing the time periods represented by the first four aircraft the 86th used: the F-47, F-84, F-86, and F-102. Each chapter addresses the major areas common to the daily affairs of any Air Force tactical unit, Operations, and Maintenance/Supply. As the host military unit for the largest American community outside the United States, this paper also highlights important community relations developments of the 86th during its first twenty years.

To ensure there are no obstacles to the widest possible distribution of this paper, the author kept this paper free of classified material. Although some of the research sources cited in the bibliography remain classified, information used is unclassified and wholly releasable.

I wish to thank the personnel in the USAF Historical Research Center, Maxwell Air Force Base, Alabama, for their responsiveness and assistance in providing research documents for this paper.

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### ABOUT THE AUTHOR

Major Phillip C. Miller, Jr., began his military career in 1968, when he enlisted in the US Army. After Basic Training at Fort Polk, Louisiana, and flight training in the Warrant Officer Aviators' Course, he served as a utility helicopter pilot in the Republic of Vietnam. Major Miller flew more than 900 hours of combat, returned to the United States after being wounded during hostile action, and served two years at Fort Bragg, North Carolina.

Major Miller then entered the Reserve Officer Training Corps at the University of Florida, graduating in 1974. After medical elimination from undergraduate pilot training at Laughlin AFB, Texas, Major Miller entered the aircraft maintenance career field, his current Air Force specialty. He served two years at Laughlin as a flightline branch chief and job control officer, leaving there in 1978 for the 86th Tactical Fighter Wing at Ramstein Air Base, Germany. The author remained with the 86th for four years, serving in various positions with the wing's three maintenance squadrons. He returned to Randolph AFB, Texas, in 1982, serving as a maintenance staff officer in the Air Training Command headquarters Logistics Deputate until 1986, when he entered Air Command and Staff College. Because of his previous assignment with the 86th, Major Miller gained an appreciation for the unit and reflected that interest in this paper.

Major Miller has a Bachelor of Arts Degree in History from the University of Florida, and a Master of Arts Degree in Management from Webster University. He completed Squadron Officer School in residence in 1979, and Air Command and Staff College by seminar in 1984, and in residence in 1987. His decorations include the Air Medal, Air Force Commendation Medal with one Oak Leaf Cluster, and Purple Heart.

## Chapter One

### THE PROPELLER ERA

The 86th Tactical Fighter Wing activated 1 July 1948, at Neubiberg Air Base (AB), near the Bavarian city of Munich, Germany. Using the personnel, facilities and aircraft of the 86th Fighter Group at Neubiberg, the 86th "provided air defense, primarily in West Germany" (028:121). This paper will discuss the first twenty years of the 86th by examining the time periods represented by each of its first four operational aircraft. Each chapter will cover the operational, maintenance/supply, and community relations achievements of the unit. Operationally, the 86th trained and deployed throughout Europe and North Africa, and was on alert for immediate contingency response. The maintenance and supply efforts to keep the 86th formidable depended on long, hard work by all within those critical support areas. All wing personnel were important in establishing and maintaining strong community relations with our German hosts, and those efforts are reflected in the community relations section of each chapter.

The first few years of the 86th Tactical Fighter Wing, July 1948 to October 1950, represent the propeller era and

may easily be characterized as a first and a last. The piston engine powered F-47D Thunderbolt was the first basic aircraft assigned to the 86th, and the last propeller driven fighter the unit used. This tough aircraft saw distinguished service in the latter stages of World War II and remained a potent force while assigned to United States Air Forces Europe (USAFE) units following the war. Operationally, the 86th continued to use the F-47 regularly in European exercises, and deployed to Libya for gunnery and tactics training (see Figure 1).

This first chapter will discuss some of the key exercises involving the 86th, the logistics support provided by maintenance and supply, and its role as an ambassador for the United States to its German hosts, recently turned ally, in the Neubiberg-Munich area.

### OPERATIONS

Regular participation in European exercises and periodic training deployments to Wheelus Air Force Base in Tripoli, Libya, provided ample opportunity for members of the 86th to learn their assigned tasks. The aircrew members also learned how to get the most out of the F-47, developing and honing techniques in air-to-air and air-to-surface operations (001:2). The first of its many trips to Libya began in August 1948, when the 86th sent 16 F-47Ds to Tripoli for aerial gunnery training. It again sent 16 aircraft to

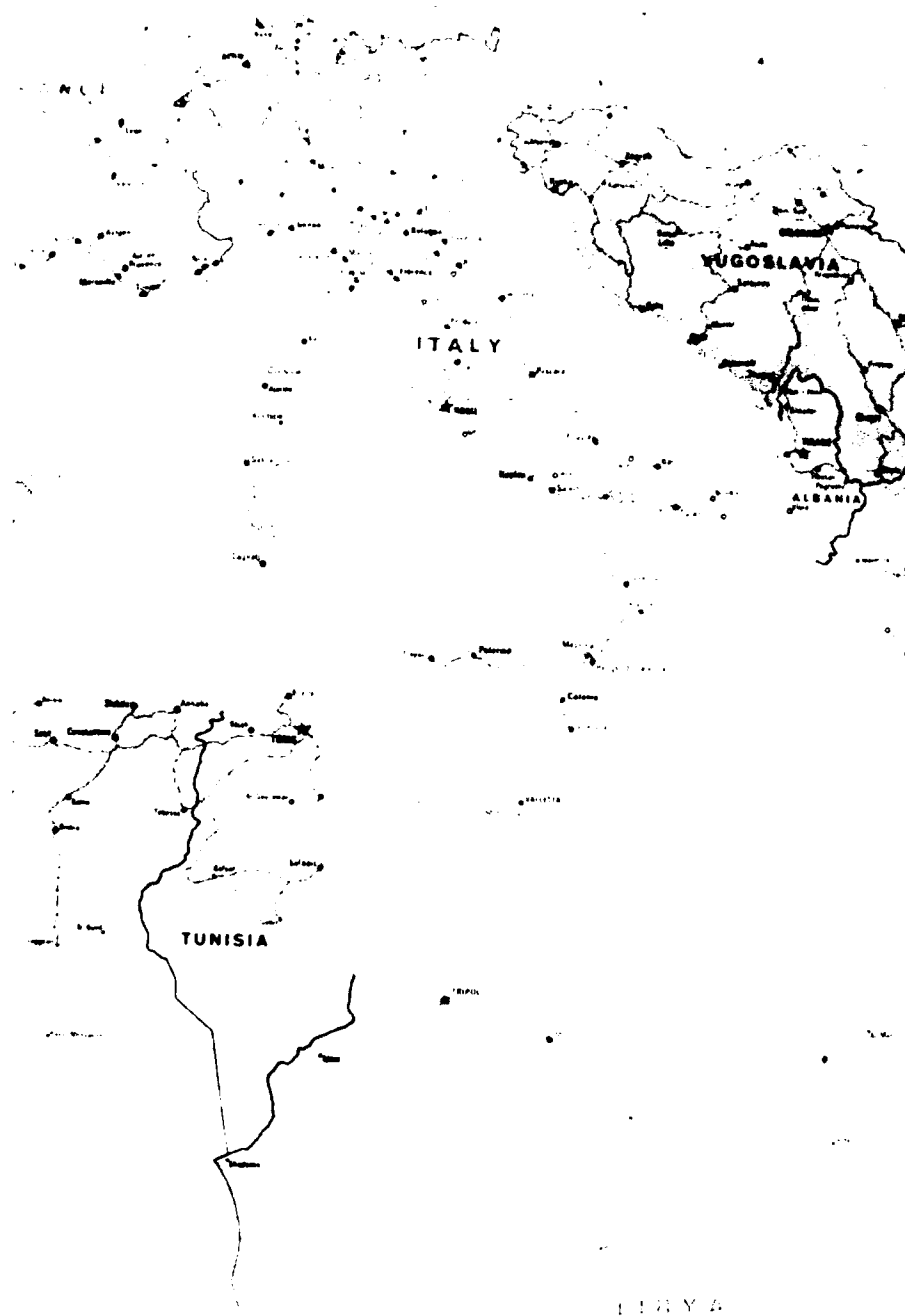


Figure 1. Map showing distance from Germany to Libya

Tripoli in August 1949, not only to train, but also to practice for an upcoming gunnery meet in Tripoli against other USAFE units, and to prepare for Exercise Harvest. Conducted 4-17 September 1949, Exercise Harvest represented

one of the largest air, ground, and naval exercises held in the US Zone of Germany (003:16). Later that month, units of the 86th underwent a two-week elimination gunnery meet in preparation for a national gunnery meet scheduled for March 1950, at Las Vegas, Nevada. Returning home that summer, the 86th made its last trip to Libya with the F-47D aircraft in July-August 1950, sending 25 aircraft for aerial gunnery training. The frequent training, exercising, and deployments did not mean the 86th was exempt from inspection.

USAFE inspectors evaluated the 86th Fighter Wing twice during the propeller era. In September 1948, the 86th scored well on an Operational Readiness Test, evaluating missions such as dive bombing, strafing, smoke laying, and fighter sweeps. Verifying their high rating, the inspectors stated "they were the best of eight units...inspected" (003:5). In April 1950, the 86th was inspected by officers from the Air Inspector Operations and Training Branch, USAFE, to determine its "readiness of units and personnel under actual conditions" (003:8).

From April 1949, to September 1950, the 86th took part in numerous exercises with our European allies in Central Europe and in the Mediterranean. These joint and combined exercises, and the benefits derived from each, did much to keep the 86th at a high readiness state. In April 1949, all squadrons of the 86th took part in Operation Showers, held at

Giebelstadt, Germany. This exercise prepared the 86th for the upcoming Exercise Harvest and allowed them to hone their skills and coordination (003:6). Exercise Shamrock was held 16-23 March 1950, in the French Zone of Germany. The 86th worked to "...perfect staff procedures with coordination between staffs of different services, and test communications equipment under field conditions. Results were successful" (003:8). Exercise Wanderer was conducted 20-22 August 1950, near Stuttgart, Giebelstadt, and Kitzingen, Germany. This maneuver carried out "strike and armed reconnaissance missions to detect and disrupt enemy lines of communication and transport, eliminate radar and guided missile sites, and prevent concentration of material and manpower, thus destroying the offensive power of the enemy" (003:11). Exercise Champagne was held 27 August-4 September 1950, in the areas around Metz, France, and Luxembourg. The 86th developed and perfected "...air/ground tactical techniques, air/ground cooperation, and tactics and techniques for air combat" (003:11). From 11-18 September 1950, the 86th performed strike and armed reconnaissance missions as members of an aggressor force during Exercise Rainbow (003:11). Moreover, during that same month, the 86th took part in Exercise Argus with the Norwegian Air Force, and conducted a command and base tour of the facilities at Neubiberg AB for military representatives from Great Britain, Denmark, France, Italy, and the Netherlands (003:11,12).

The 86th conducted extensive air-to-air and air-to-ground missions during May 1950, at the Siegenburg Ground Gunnery Range, Germany, and at Luqa Air Field, Malta. The value of these missions was evident in the procedural faults discovered at the Siegenburg Range and the positive steps taken to correct them. The 86th also benefitted from the two weeks at Malta. Operationally the missions went well. Logistically, however, the 86th learned some lessons concerning parts availability for aircraft repairs (003:6).

#### MAINTENANCE/SUPPLY

The F-47 was a rugged machine and could perform quite well given a modest amount of proper care. While there is not a great deal of historical data available documenting unusual or significant maintenance difficulties during the Propeller Era, the 86th experienced low moments in its efforts to care for the F-47. The most significant problem occurred soon before the arrival of the replacement for the F-47, the F-84.

The USAFE depot, the 85th Air Depot Wing, anticipated a timely conversion to the F-84 without delays or delivery difficulties. The depot methodically zero stocked F-47 assets [deleted them from requisition and replenishment lists] to make room for the incoming F-84 spare parts. This management decision sounded good, and it might have worked in a sterile



environment. Unfortunately, however, the F-84 was delayed in production and in its departure from the United States, forcing units scheduled to receive the F-84 to continue using the F-47 until the F-84 problems were corrected. This unexpected higher utilization of the F-47 resulted in more maintenance actions and higher parts consumption, and unfortunately, the spare parts were not on the warehouse shelves to support maintenance needs. To remedy this situation, USAFE headquarters worked with all F-47 units and the depot to reestablish support for the previously cancelled parts. Shortly thereafter the badly needed items arrived from the United States, but, by costly priority air delivery (002:7).

#### COMMUNITY RELATIONS

As a representative of the United States abroad, the 86th Fighter-Bomber (F-B) Wing commander, Colonel John S. Chennault, was keenly aware that his unit was very much in the public eye and that all efforts had to be taken to cement friendly relations between our people and our German hosts. An example of just such an event to help those relations was the ceremony in May 1950, opening a newly completed section of autobahn [German super highway] by the 86th commander. Other less significant but noteworthy events included participation by base personnel in the German March of Dimes counterpart, the "Pfenig Parade," and providing static

display aircraft for public events in Berlin and Munich in May 1950. These events, as well as other less significant day-to-day involvements, helped foster better relations between our forces overseas and the Germans. It's because of these seemingly small occasions that their job overseas was made that much easier.

The Propeller Era of the 86th F-B Wing is remembered by the F-47D Thunderbolt. It served the 86th well and will long be remembered as a key contributor to our military strength. Its days were numbered, however, and indeed, on 2 October 1950, nine F-84 Thunderjets arrived at Neubiberg from Bergstrom Air Force Base, Texas, signalling an end to the Propeller Era and ushering in the jet era.

## Chapter Two

### THE THUNDERJET

The 86th Fighter-Bomber (F-B) Wing operated the F-84E Thunderjet from October 1950 to April 1953. This period saw frequent exercises and maneuvers, joint tests and evaluations, and even an unfortunate incident when two 86th aircraft inadvertently strayed across the East-West border, and landed in Prague, Czechoslovakia. The 86th faced its usual maintenance and supply problems associated with day-to-day operational needs, as well as those aggravated by converting to a totally new and different weapon system. Coupled with these operational and support concerns were the growing human needs of dependent housing, relocating from Neubiberg AB to Landstuhl AB, and the headaches associated with the responsibility for what has become the largest American city in Germany. This period with the F-84 was significant to the growth of the 86th F-B Wing, and this chapter will examine the Operations, Maintenance/Supply, and Community Relations developments from October 1950 through April 1953.



Figure 2. F-84E Thunderjets

#### OPERATIONS

The first of the F-84s arrived in October 1950, and served the 86th F-B Wing well until April 1953, when they were replaced by the F-86F (014:25). While using the F-84, the 86th established a well deserved place in the front line of NATO's defense. Defense of freedom is not without a

price, however, as more than eight pilots were killed and 16 aircraft were lost in flying or training accidents during the Thunderjet era. This grim reminder of the serious nature of the 86th F-B Wing's business underscored the high cost of freedom, and the constant preparation required of those appointed to defend that freedom.

And constantly prepare it did. The 86th continued aerial gunnery training at Wheelus AFB, Libya, deploying seven times with the F-84E Thunderjet. These dependable trips to Tripoli not only enabled the 86th to sharpen its aerial gunnery skills, but also to hone its development of aerial tactics. This training served the 86th well during its many exercises and maneuvers with US, as well as allied forces.

Significant maneuvers were held in late 1951 and early 1952. During the fall of 1951, the 86th worked closely with anti-aircraft artillery (AAA) units of the US Seventh Army, the 48th and 94th Aviation Battalions, the 12th AAA Group and the 63rd AAA Gun Battalion to demonstrate air-ground cooperation (004:6). Furthermore, these maneuvers against and with ground units responsible for anti-aircraft defense, enabled both the air and ground components to learn more about the other guy's business while improving their own capabilities. While the Army sharpened radar tracking skills and increased abilities to detect targets, the 86th provided the ground units opportunities for live firing by towing targets (004:22,24).

These training opportunities weren't confined to working with American forces only. The 86th trained with French, British, Dutch, Norwegian and Belgian forces both in the field and at their respective bases, and also tested interserviceability with our NATO partners. In March 1951, the 86th worked jointly with the French to help them identify jet aircraft as well as help the 86th train pilots in pin-point navigation (004:5). Some of that pin-point navigation would have helped an 86th aircrew on 8 June 1951.

While on a routine training flight, a member of the 526th F-B Squadron and his Norwegian wingman, training with the 86th, became lost and landed near Prague, Czechoslovakia. After enjoying Czech hospitality for approximately four weeks, the American was returned to the 86th on 4 July 1951--Independence Day! [No record was found concerning the fate of the Norwegian or of the new Thunderjets.] (005:4)

In September 1951, the 86th participated in Exercise Cirrus to

...test the command and control system of all air and anti-aircraft forces in Western Europe while emphasizing mutual support arrangements, to practice control and reporting systems, and to exercise formations in the movement and redeployment of units under conditions approximating those found in actual combat operations (007:4).

Additionally, in June 1952, the 86th took part in Exercise June Primer, a five-day test at Fassburg AB in the British Zone of Germany to test interserviceability with ground crews and aircraft of our NATO partners (010:5).

Two especially significant joint exercises involving the 86th and our allies were Exercises Rosebush and Blue Alliance during September and October 1952 (012:5). Rosebush involved the US Seventh Army and French II Corps, and pointed out significant communications problems. Blue Alliance was larger in scale, involving Allied Air Forces Central Europe (American, Belgian, British, Dutch, and French). The significance of Blue Alliance was it pointed out the frustration of not having exercise umpires to make final decisions in simulated battles. This was particularly irritating especially when involving allied participants (012:5).

Additional exercises and maneuvers the 86th participated in were Alpine, Combine, and Yuletide. Exercise Alpine was held January 1951 in the US Zone of Austria, and was considered successful despite inclement weather (003:14). During Exercise Combine, the 86th acted as an aggressor unit providing air power support for ground units against friendly army, navy, and air forces (007:4). Exercise Yuletide, however, tested the ability of the 86th to set up and operate a forward element in the field with minimal prior notice. The forward unit for the 86th was based near Wiesbaden, Germany, with the rear element remaining at Neubiberg. There was a lot learned from this exercise as it showed the poor and untimely element of communications difficulties and revealed unrealistic situations. Although there was adequate

building space for operations and housing requirements, some officers were billeted in Wiesbaden, eliminating the opportunity for actual field experience (008:6,7).

The 86th quite often departed Neubiberg, but not always to participate in exercises or maneuvers. In May 1951, the 86th was forced to relocate to Giebelstadt AB to allow for runway repairs (005:4). Although these repairs were sorely needed and necessary for the 86th to continue operations, they did not signify that the 86th would remain at Neubiberg forever. Indeed, in January 1952, the first plans were initiated to move the 86th from its Bavarian home at Neubiberg to Landstuhl AB near Kaiserslautern in the French Zone of Germany (009:7). This move was to improve communications and NATO air defense responsiveness in Central Europe. These plans came about in June 1952, when the 527th Fighter-Bomber (F-B) Squadron, the first squadron to relocate to Landstuhl, began full operations. Between June and November 1952, the 86th operated from both Neubiberg and Landstuhl. On 17 November 1952, the last of the three flying squadrons, the 525th F-B Squadron, relocated to Landstuhl, reuniting all of the 86th F-B Wing's flying units. Additionally, the 86th Maintenance and Supply Group moved to Landstuhl in November 1952, when its facilities were finally ready for occupation.

This period of a totally new weapon system posed its own challenges for the 86th. While the training and exercises



were primarily geared to the operational aspect of using their assigned weapon system, the maintenance and supply personnel faced their own problems in keeping the F-84 flying.

#### MAINTENANCE/SUPPLY

Going from piston and propeller driven aircraft to the jet age took some doing. Obviously the pilots now operated in a different world, but the ground crews responsible for these jet-powered aircraft also faced new challenges. As evidenced by their ingenuity in devising engine intake screens and test stands for engine maintenance, members of the 80th worked hard to meet these many challenges. They did not always have the necessary parts when needed, and also began receiving increasingly unreliable engines. They often resorted to work arounds [short cuts] when the required parts weren't available, or when available items wouldn't work. Members of the 86th experienced all these situations and still provided a quality product for the aircrews to do their jobs. Before the 86th received the F-84, however, a mobile training unit for the aircraft arrived early in June 1950. This unit, and the team that accompanied it, provided training mockups of the F-84 systems and allowed the maintenance technicians and operators to familiarize themselves with this new jet aircraft. Following its arrival at Furstenfeldbruck AB, the training unit was immediately assembled and training on the F-84 began (003:10).

When the F-84 arrived, it brought with it problems the men of the 86th had never seen before. As a new aircraft with a new powerplant, one might think the single area with the most difficulty would be the engine, and this held true. No longer could discussions center around jugs, stacks, and pistons. They now had to include terms such as tailpipes, blades, and turbine wheels. The F-84 used the J35 engine and shortly after the aircraft arrived in September-October 1950, the engine gave notice of some of the difficulties that would accompany it. Cracked engine nozzle diaphragms (003:12) and bearing failures prevented the main engine shaft from rotating smoothly, and USAFE command-wide shortages on engine casings were but some of the difficulties the 86th would have to combat. Additionally, persistent problems were encountered with foreign objects found in the engine oil tanks. This problem required a complete drain and flush of the entire engine oil system, and was an extensive man-hour consumer (006:12).

However, not all of the J35 engine news was bad. Efforts were underway during September-October 1951, in the 86th and at USAFE headquarters, to allow the 86th maintenance personnel to remove upper J35 engine cases for repair purposes and alleviate a command-wide shortage of J35 engines. But this request was disapproved by the Air Materiel Command (AMC) as too risky, because it would increase the possibility of damage due to inadvertent

introduction of metal particles into the engine. In AMC's words, "field maintenance was not the place to do that type of repair" (007:11). In December 1951, though, the 86th was given repair authorization to blend out blemishes on the front blades only (008:9). This repair process involved filing away the rough nicks and dents on the turbine blades created when a jet engine swallowed small, hard foreign objects such as pieces of metal or stones. In a further attempt to prevent the engines from swallowing such foreign objects, maintenance technicians in the 86th devised a screen which fit directly over the mouth of the aircraft's engine intake, filtering out everything except pure air from being ingested (008:8). The procedure for using the screens required that they remain installed through engine start and taxi to the runway. At that time two maintenance technicians would remove the screens. After the aircraft landed and cleared the runway, maintenance personnel would then reinstall the screens and the aircraft would taxi for parking. Following extensive debate over whether or not to continue using the screens, USAFE headquarters decided in June 1952, they could be used "until further notice" (010:5).

Repairing small nicks and dents, and installing intake screens were not the only methods the 86th used to ensure a healthy engine posture. A simple way of making sure engine repairs actually fixed the problem was to install the engine in an aircraft and run it to check performance. While this

procedure will certainly provide the answer, the obvious drawback was it unnecessarily tied up an aircraft. It also took a great deal of time to install an engine and remove it again should the repairs be inadequate. To save time, money, and a valuable weapon system, members of the 86th developed an engine test cell which allowed engine troubleshooting prior to maintenance, and again to verify that the correct maintenance actions were taken. This test cell was adaptable for other jet engines also, and was made available for USAFE units using the J33, J35, and J47 engines. During its first few months of operation the test cell saved taxpayers more than \$425,000 in maintenance costs alone (003:19), and quite possibly prevented a faulty engine from being installed, flown, and then failing at an inopportune or disastrous moment.

While the 86th F-B Wing engine test cell had far-reaching repair implications, a programmed changeout of all F-84 J35A-17A engines to the updated and improved J35A-17B was well underway in late-1951. This changeout was important in that it would remove many of the older engines' long-standing maintenance problems. The changeout was also made easier when a member of the 86th discovered that time, effort, and money could be saved by using an engine bearing common to both the older -17A and the newer -17B engines. Once this common bearing was installed, the changeout became much easier and took less time (007:12). While the F-84 engine

gave the 86th and USAFE cause for concern, and although it was the one big headache for the F-84, it certainly was not the only area on the aircraft keeping maintenance and supply people busy.

Other areas of concern involved the canopy, technical order (TO) compliance kit availability, and shortages of main landing gear (MLG) components and avionics equipment for some of the aircraft navigation instruments (006:5-8). The F-84 community faced a peculiar problem of plexiglas canopies bursting whenever cockpit pressurization was applied. Luckily, the 86th only experienced two canopy failures. The difficulty was with the canopies themselves, necessitating a program in July 1951, to change the older canopies to sturdier replacements nicknamed "Green House" canopies. While the supply shortages of MLG components and avionics equipment were certainly important and could easily affect the combat rating of the 86th, concerted efforts "at all levels of command improved the flow of those items and prevented an adverse impact" on the 86th (006:6).

The shortage of TO compliance kits, however, posed a greater obstacle. These kits were needed to make replacements or performance modifications required by aircraft configuration changes, or, to correct known safety of flight deficiencies. By August 1951, of the 351 TOs not complied with in the 86th F-B Wing, 285 were due to a shortage of materials. The 86th worked aggressively to

eliminate the backlog of outstanding TOs and contacted the Erding Air Depot Wing to speed distribution of required kits. These efforts paid dividends and shortly thereafter the backlog was brought to within manageable limits (006:5).

These few examples of how the 86th coped with various areas of difficulty on the F-84 show that it did its job. The supply people fought shortages by doing what was necessary to expedite the delivery of needed items, and the maintenance personnel did all they could to keep 'em flying. This historical report would be remiss, however, if it gave the impression that the maintenance and supply functions were always top-notch. This was simply not the case. In July 1952, the USAFE Operational Readiness Inspection (ORI) Team said the wing's maintenance and supply procedures were inadequate. Specifically, the maintenance personnel had "fallen into many poor practices due to the previously high level of in-commission aircraft...and supply procedures were suffering from a very critical shortage of qualified supply personnel" (011:8). In defense of the 86th, however, it must be remembered that the unit was in the middle of its move from Neubiberg to Landstuhl and was operating from both locations. Further aggravating this situation was the absence of maintenance hangars and inadequate supply warehouses or storage sites at Landstuhl. These difficulties notwithstanding, the 86th persevered and improved its

situation through the construction of better facilities and an increased effort by all personnel to get the job done.

During the transition from the F-84 to the F-86F, a disastrous accident occurred in September 1952, killing an 86th F-84 pilot. While on a routine gunnery mission the aircraft disintegrated in flight because of a cracked wing. This resulted in an immediate reduction of the combat readiness of the 86th because all F-84 wings had to be inspected for defects. The obvious maintenance impact was severe--the inspections alone were time consuming and seven aircraft required wing change before further flight. To share the burden of these wing changes, the 86th transferred some aircraft to the depot facility at Erding Air Station or to other USAFE units which could more easily absorb the workload (013:10). Operationally and logistically the 86th experienced tremendous growth and change during the period of the Thunderjet. This growth meant an increase in the number of dependents following their sponsors overseas, and because of that increase, Community Relations efforts in the 86th centered on ensuring adequate housing for its dependents.

#### COMMUNITY RELATIONS

With a rapidly growing population of families joining members of the 86th in Germany, concerns other than operational readiness rates or shortages of engine parts would frequently arise. Additional community problems the

86th faced, however, included the need for adequate housing for its dependents, and moving them to their new homes in the vicinity of Landstuhl Air Base. Such a large and growing population of noncombatants resulted in obvious concern about ensuring their safety should hostilities arise.

The plans to evacuate these American families were exercised in December 1951, when they received instructions as to type and amount of personal belongings including food to be carried in case of any emergency, place of assembly, and procedures relating to transportation" (003:25).

The most pressing and immediate concern for the 86th, however, was adequate housing for its families. Their needs were just as valid as families back home in the States, but their pressing urgency was made more acute by virtue of being in a foreign country. The situation was especially difficult beginning in the spring of 1952, when the 86th began its move from Neubiberg to Landstuhl, approximately 300 miles away (see Figure 3). For the next nine months, many members of the 86th would commute to work at Landstuhl AB, leaving their families behind in the Neubiberg-Munich area because there was no adequate housing for them at Landstuhl or in the adjacent town of Kaiserslautern. During the work week they would be apart and on the weekends they would return to their families if the duty schedule allowed (012:15). This schedule had its obvious drawbacks. Safety, morale, unit effectiveness, and individual responsiveness all suffered



during the period from July 1952, until the spring of 1953, when the last of the families moved to the Vogelweh housing area in Kaiserslautern. Vogelweh housing was constructed specifically for American military families. At its projected size and capacity, the American military community in and around Kaiserslautern would be known as the "largest American city in Europe" (012:15).

Its immediate family needs met, the stage was set for further change by the 86th. The unit had acquired its first jet powered aircraft, the F-84, and had begun a major relocation to entirely new surroundings at Landstuhl AB. In late 1952, initial preparations were underway for the 86th to receive its next jet aircraft, and in 1953, the F-86F Sabrejet arrived at Landstuhl AB (013:7).

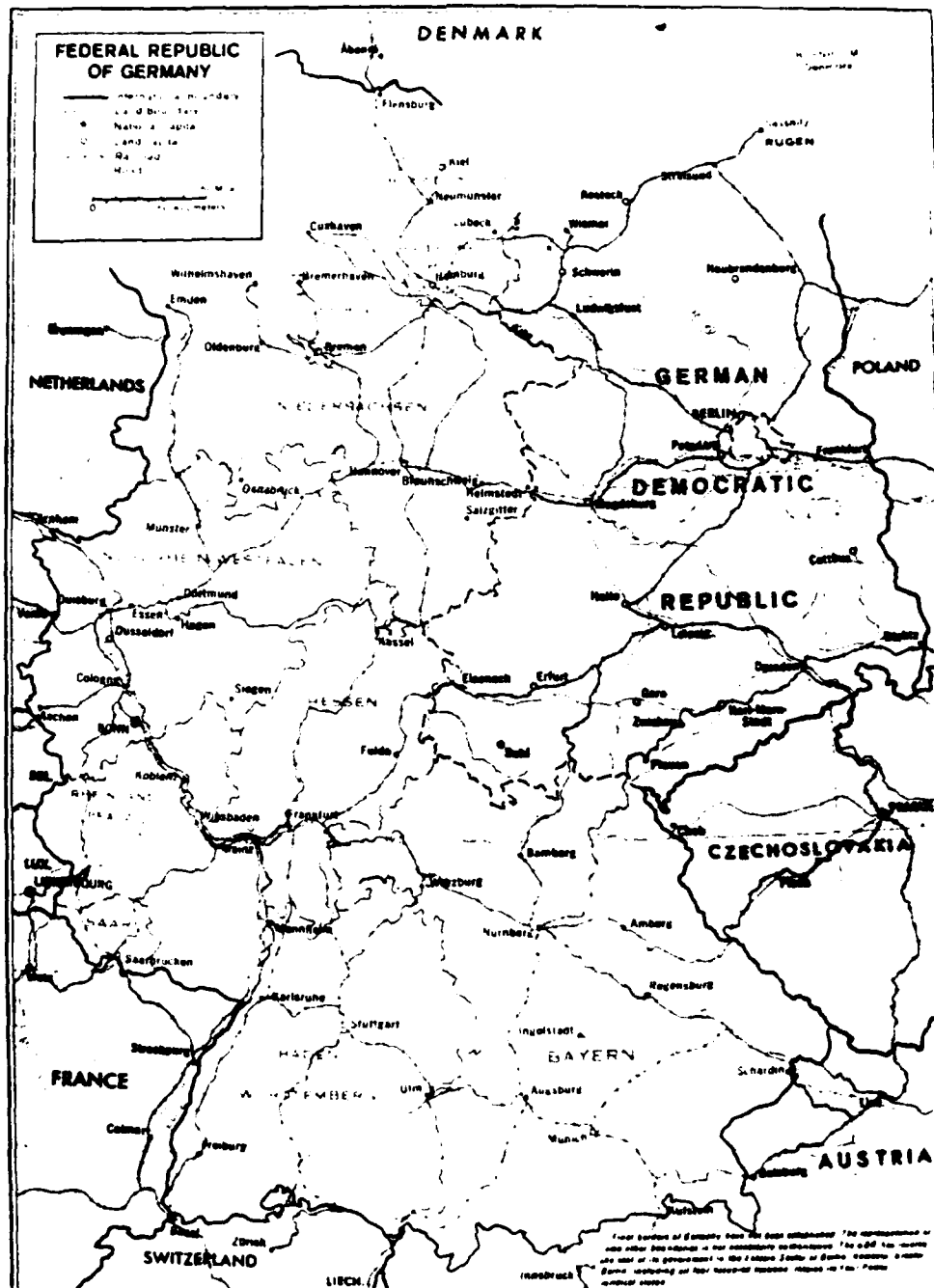


Figure 3. Map of West Germany

## Chapter Three

### THE SABREJETS

The 86th operated two versions of the F-86 Sabrejet from 1953 to 1959. The arrival of the F-86F in April 1953, signaled further growth and improved air defense capabilities for the 86th (see Figure 4). The F-86F was with the 86th briefly until July 1953, when it was replaced by the F-86D with its more capable air intercept systems (see Figure 5).

During the Sabrejet period the 86th also experienced organizational changes. Two reorganization efforts in 1953 and 1954 altered the structure of the 86th, and preceded its first increment of growth when two new squadrons were assigned in 1954. Further changes occurred in 1958, when three new squadrons were assigned, raising the number of squadrons in the 86th to seven, and making it one of the largest wings in Europe. Throughout these important changes the 86th continued to do more of what it's always done--exercise, deploy, and train. These efforts were not without cost, however, as 12 pilots and 28 aircraft were lost during training and flying accidents; a continuing reminder of the serious business of the 86th.

### OPERATIONS

Changes were in store for the 86th, as the F-86 Sabrejet Mobile Training Team and training unit arrived in November 1952. This team and training unit provided air and ground crewmembers familiarization and training on the Sabre's systems. In the meantime, selected members of the 86th continued hands-on training with the F-86 at Bentwaters and Shepherd's Grove ABs, England. The big day for the 86th was 14 April 1953, when 13 F-86F Sabrejets arrived and were assigned to the 527th F-B Squadron.

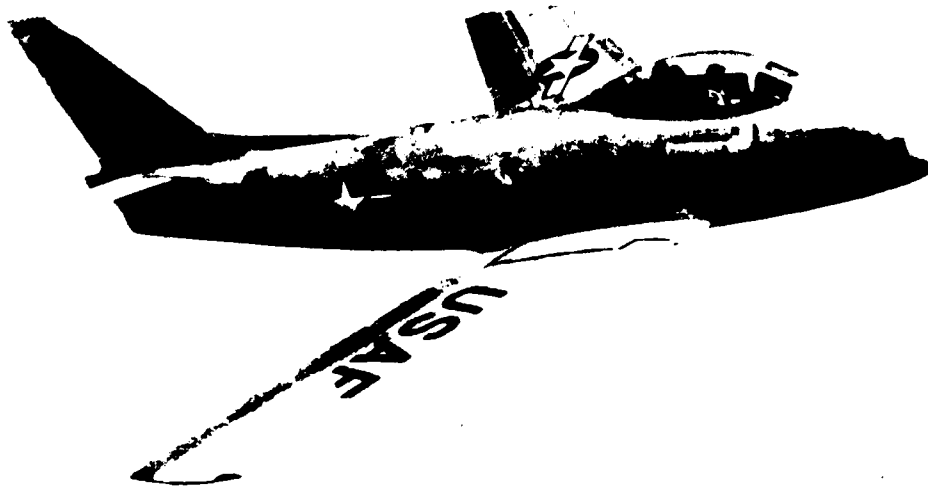


Figure 4. F-86F Sabre



Figure 5. F-86D Sabre (note radar in nose)

These new aircraft didn't arrive without associated headaches, however. Not long after the 86th began using the new Sabres, the number of maintenance discrepancies began climbing (014:16). Further inspection indicated the need for a much closer look at each aircraft before continued use. The 86th conducted what amounted to a periodic inspection (extensive maintenance inspection) on each newly received F-86 and the results were disappointing. These inspections revealed loose pieces of hardware (rivets, bolts, washers,

cotter keys) lying throughout many aircraft, causing short circuits on two of them. The inspectors also found generally poor workmanship on outer skin installation and damage to the skin itself from poor use of riveting tools (014:17). In addition, improperly routed hydraulic, fuel, and oil lines were chafed, resulting in frequent leaks and grounded aircraft. Further investigation revealed the assembly plant in Ohio could improve its workmanship and inspections, and indeed, that message was relayed through official channels to the manufacturers of the F-86, the North American Aviation Company. Also, the on-scene Air Force representatives at the assembly plants were instructed to conduct more thorough inspections of the aircraft before accepting them for delivery to the Air Force (014:18). These corrective measures had their desired effect as there were no indications of repeats of the same discrepancies on subsequent aircraft deliveries.

As with previous aircraft, the 86th accepted the F-86 and immediately began training with it at the aerial gunnery range in Tripoli, Libya. In fact, the 86th deployed to Tripoli more than 15 times with the F-86, eventually establishing its own Detachment One there in August 1958 (023:Dir of Materiel Tab). In addition to its detachment at Tripoli, the 86th secured more live firing training sites at the US Army's Baumholder Training Area in August 1953 (015:9), and the Italian National Gunnery Range at Brindisi,

Italy, in September 1958 (023:Dir Mat Tab). Coupled with its continuing exercises and maneuvers with US and allied air and ground forces, the use of these additional sites gave the 86th added flexibility in the area of training realism. In the case of Detachment One at Tripoli, however, the 86th satisfied a USAFE requirement to maintain two aircraft on five-minute alert status in North Africa (023:Dir Mat Tab). The most economic means of maintaining those alert aircraft would be an established detachment, and from August 1958, to December 1959, the 86th was in charge of Tripoli's aerial gunnery range.

Sending aircraft and crews to Libya and Italy for live firing were not the only times members of the 86th broadened their horizons. Quite often the 86th would take their Sabrejets to allied bases in Norway, the Netherlands, the United Kingdom, and Italy on week-long exchange tours (020:13). These exchange tours gave the 86th pilots and ground crews an excellent learning opportunity by teaching them the differences and similarities of our allies and their equipment and facilities (021:9). Simultaneously, while 86th crews went to their sites, European crews would reciprocate and fly their aircraft from USAFE facilities, giving them the opportunity to operate from a USAFE base.

The 86th also made trips to the United States to represent USAFE in weapons competitions held at Nellis AFB, Nevada, in 1954 (017:38), and Tyndall AFB, Florida, in 1958 (023:Hq

Tab). While the 86th failed to walk away with first place team awards, they did earn individual honors. Of noteworthy interest were two individuals on the 1954 team that represented USAFE at Nellis: team captain Colonel George B. Simler, 86th F-B Group Commander, and Captain Charles A. Gabriel, team armament officer. Both individuals would ultimately distinguish themselves by becoming major air command commanders, and further, Captain Gabriel would eventually retire as the Air Force Chief of Staff.

This time period also saw reorganizations of the 86th F-B Wing, both as a service test and to meet real world requirements. In May 1953, the 86th underwent a six-month service test reorganization "to determine the maximum efficiency with the minimum number of personnel" (014:10). This test drastically reduced the size of the wing commander's staff and, where possible, combined offices where there were apparent duplications of effort, i.e., Wing Adjutant General and the Air Base Group Adjutant Section (015:23). Upon strong recommendations from the wing commander, Colonel George R. Bickell, the 86th was again reorganized in May 1954, reinstating the wing staff. Additionally, the 86th Maintenance and Supply Group inactivated, with the people and facilities used for the newly activated 86th Materiel Squadron (017:16). The 86th remained under this basic organizational structure until December 1957, when it became a purely tactical wing. It



lost all logistical support responsibilities and the 86th F-B Wing commander was no longer responsible for total base support. Those responsibilities now belonged to the 7030th Support Group which was part of the 7100th Support Wing. This reorganization came about because of a revised USAFE logistic support concept with the Federal Republic of Germany which allowed the 86th commander to concentrate fully on the operational requirements of running a tactical wing (021:1-5).

During the period of the Sabrejets, the 86th increased in size from three flying squadrons in 1953, to seven squadrons and one detachment in 1959. The first growth increment occurred in July and August 1954, when advance parties of the 440th and 496th Fighter-Interceptor Squadrons (FISS) arrived at Landstuhl from the United States, and the 86th was redesignated a Fighter-Interceptor (F-I) Wing. These squadrons were scheduled for assignment to Phalsbourg AB, France, then under construction. Until Phalsbourg was ready to receive them, though, the 440th and 496th remained at Landstuhl, aggravating the already crowded facilities there. To alleviate this uncomfortable situation, the 527th F-B Squadron temporarily relocated across the valley to Sembach AB (017:26). This helped the situation, however, construction delays at Phalsbourg prevented the 440th and 496th from ever being assigned there. Because of these unpredictable delays, and to further spread our European line

of defense, the 440th was assigned to Erding Air Station, Germany, in February 1956, and the 496th moved to Hahn AB, Germany, in November 1956 (020:10).

The second growth increment was from March to May 1958, when the 86th received three squadrons from the inactivated 406th F-I Wing in England, the 512th, 513th, and 514th FISS (022:2,3). These gains, coupled with the earlier transfer of the 527th Fighter-Day Squadron (previously a F-B Squadron) to the 36th Fighter-Day Wing at Bitburg AB, brought the 86th to seven flying squadrons and one detached site spread throughout Europe and North Africa (022:2).

As mentioned earlier, this period of growth and expansion came at a price. The heavier toll was, of course, in aircraft and pilots lost in training and flying accidents. An often overlooked toll, though, was in the efforts and energies of the men and women behind the scenes in the logistical support functions of maintenance and supply.

#### MAINTENANCE/SUPPLY

The arrival of the F-86F to the 86th was certainly welcome, but like the F-84 before it, the incoming Sabrejet brought along its own maintenance and supply difficulties. The early supply situation was poor due to a shortage of adequately trained supply personnel. In addition, the 86th lacked dedicated storage space and not only shared the facilities of the consolidated supply warehouse, but also

"stored items on loading ramps and roadways around the warehouse, violating every rule in the book" (014:14).

Two significant initiatives to improve the supply situation were tried, Operation Shortenin' Bread and Project Bench Check. Operation Shortenin' Bread was the brainchild of USAFE Commander, Lieutenant General William H. Tunner, past director of the famed Berlin Airlift (016:10). Begun in October 1953, Shortenin' Bread was conceived to speed delivery of parts to individual fighter units and made the 86th a terminal for moving parts to immediately surrounding Air Force units.

Where Shortenin' Bread addressed the supply difficulties, Project Bench Check was begun in early 1954 to lessen both the maintenance and supply problems. Before a suspected faulty aircraft component was returned to the depot for repair, it would first be checked locally to see if it could be repaired quickly by the 86th, or if it indeed had to be forwarded to the depot. This simple verification and repair process substantially reduced the average number of days to return a component to usable condition and improved the supply posture of the 86th by six percent in the first three months after implementation (017:47). Another significant maintenance initiative the 86th took reduced its shortage of F-86F J47 engine tailcones. In early 1954, the 86th obtained approval to weld cracked tailcones rather than replace them.

Alongwith Project Bench Check, this was a good use of in-house repair capabilities (017:48).

When the 86th changed over to the F-86D in late 1954, the problem of supply shortages continued to plague the 86th. While the earlier initiatives of Shortenin' Bread and Bench Check certainly helped, there was little the 86th could do to magically produce badly needed assets. By late 1955, the 86th experienced an average AOCP (Aircraft Out of Commission due to Parts) rate of 19%, a high for USAF tactical aircraft. A significant contributor for this alarmingly high rate was insufficient J47 engine turbine wheels in Europe to "compensate for the out-of-service time involved for transportation and inspection" (019:14).

The increased capabilities of the F-86D also brought with it a change in the mission and designation of the 86th. To take advantage of the improved capabilities of the F-86 as an interceptor, the 86th became a F-I Wing effective 9 August 1954 (018:1). As might be suspected, because of its improved capabilities, the F-86D posed its own brand of maintenance problems. To counter those problems the 86th worked closely through USAFE headquarters and the General Electric (GE) Corporation to establish a school on the integrated electronic controls for the F-86D. General Electric technical representatives operated the school at Landstuhl AB, instructing not only personnel from the 86th, but also maintenance technicians from throughout USAFE. Additionally,

USAFE headquarters established Landstuhl AB as a "depot inspection base for F-86D integrated electronic controls" (018:21), giving them the overall responsibility for inspecting and repairing those complicated systems whenever other USAFE units were unable to do it themselves.

From December 1957 to July 1959, the Wing operational readiness (OR) rate fell from a respectable 74% to a marginal 62% (024:Hq Tab). This decline indicated the difficulties encountered in maintaining complex weapon systems under demanding circumstances. The continuing processes of upgrading and changing were taking place in the 86th with the advent of the F-102, and during this conversion the 86th experienced the depressing decline in its OR rate. Because of this, we can fully appreciate their achievements. The 86th did much with the F-86D, and despite difficulties the aircraft may have had, it is still highly respected.

#### COMMUNITY RELATIONS

This time period saw the move from Neubiberg to Landstuhl and concerted efforts by the 86th to establish warm relations with their new hosts in the German state of Rhineland Palatinate. The effort took many forms, including open houses, air shows, entertaining the local news media and trying to satisfy demands for less jet noise by a local action group, the Anti-Noise Committee. Not only did the 86th enjoy the benefits of good relations with its

neighbors, it also enjoyed a little bit of home away from home with the arrival of American television. These were but some of the community relations efforts by the 86th while they were using the F-86.

Additionally, the 86th established the SkyBlazers jet aerobatic team to display flying skills, and build and cement relations overseas (021:20). The SkyBlazers were formed by the 86th at the request of General Lauris Norstad, USAFE Commander, and replaced the team which was previously supported by the 36th Fighter Wing at Bitburg AB. Although the 86th SkyBlazers were only active for approximately four months, they put on many impressive displays of flying skills throughout Europe and Scandinavia. Some of their more noteworthy audiences were the Spanish Air Force Chief of Staff on 6 May 1953, the German celebration of Great Flying Day for the Badish/Pfaelzische Association at Mannheim, Germany, on 14 June 1953, and the surviving members of the World War I ~~orga~~ organization led by the Red Baron himself, Manfred von Richtofen's Flying Circus (014:22). During the SkyBlazers short existence, they performed before an estimated three million spectators (014:22).

To further relations with their hosts in the town giving Landstuhl AB its name, the 86th conducted an educational program for base personnel. The program guest of honor was the Landstuhl Burgermeister [German for Mayor], Mr Hans Schlichting. Because of his favorable impressions of the

base and his frequent visits with the wing commander, a German-American Committee was formed to discuss problem areas and ways to combat them. This committee alternated its meeting sites between the Landstuhl Officers' Club and the town of Landstuhl (015:18). While the Landstuhl German-American Committee helped resolve any friction between the base and its nearby community, another committee in Kaiserslautern, eight miles away, was actively voicing resentment towards Landstuhl AB.

The Kaiserslautern Anti-Noise Committee complained about the noise created by jet aircraft flying directly over the city when landing at Landstuhl AB. To ease tensions, the 86th Wing Commander, Colonel James O. Seckwith, invited members of the committee and the local press for a tour of the flight line and aircraft alert facility. There, they witnessed a practice alert launch and toured the ground control approach radar facility. Because of the public education about the placement of the runway, the need for safe aircraft operations, and the reason our aircraft were there, the Anti-Noise Committee members withdrew their complaints. Further, the 86th tried working with the community by raising the radar pattern altitude, reducing night flights to a minimum, and operating away from the city of Kaiserslautern as much as possible. These measures permanently resolved the situation and further improved community relations with the city of Kaiserslautern (018:31).

A significant step towards easing American presence in Germany occurred in November 1953. Until then all US forces stationed in Germany were required to wear uniforms while off duty and off base. That requirement was eliminated beginning 1 November 1953, because of a policy change by General Charles E. Bolte, formerly the United States Army, Europe (USAREUR) Commander, and later Assistant Army Chief of Staff. Since before World War II, US personnel were denied the privilege of wearing civilian clothing in Germany, and allowing the Americans that privilege did much to improve morale, and help with their adjustment into the surrounding communities (016:10).

An additional morale booster occurred in April 1957, when the Armed Forces Radio and Television Service (AFRTS) established an American TV station, Channel 20, to provide service for military personnel in the Landstuhl and Kaiserslautern area. This station "featured the most popular stateside TV programs" (031:12), making life away from home that much easier:

The 86th had an important job defending freedom in Europe. A natural part of that job entailed living overseas and trying to make life as comfortable as possible for our servicemen and for our German hosts. While taking all possible steps to make things easier between 1943 and 1959, the 86th never forgot its difficult mission of flying the F-86 and its supersonic follow-on aircraft, the F-102.



## Chapter Four

### THE DELTA DAGGER

The F-102 period of the 86th from 1959 to 1968, was both turbulent and productive. The 86th converted to a new weapon system, changed its mission, was redesignated an Air Division, and almost doubled in size when it accepted its new responsibilities in aircraft control and warning. Although the 86th had never seen combat, it flexed its muscles and was ready to do what it trained for in 1961, during the Cuban missile crisis. That high state of readiness was attainable by the 86th only by continuing what it did since inception in 1948--exercise, deploy, and train. Like the F-84 when it first arrived to the 86th, the F-102 also experienced a long spate of engine difficulties. As will be seen, the F-102 engine problems developed over the years and, although somewhat resolved, continued to plague the F-102 community. The 86th also continued its tradition of maintaining excellent relations with its neighbors in Germany and the Netherlands. The open houses at Vimy Kaserne in Germany and the victory achieved by the combined American-Dutch team representing USAFE at the William Tell weapons competition were notable achievements in the Community Relations arena.

### OPERATIONS

The immediate challenge facing the 86th as it entered the 1960s was the ongoing conversion to its latest interceptor, the F-102 Delta Dagger, or as it was often affectionately called, the Deuce (see Figure 6). This new weapon system posed new problems to the air and ground crews by virtue of its delta wing configuration and supersonic capabilities. This was a whole new ballgame for the 86th!

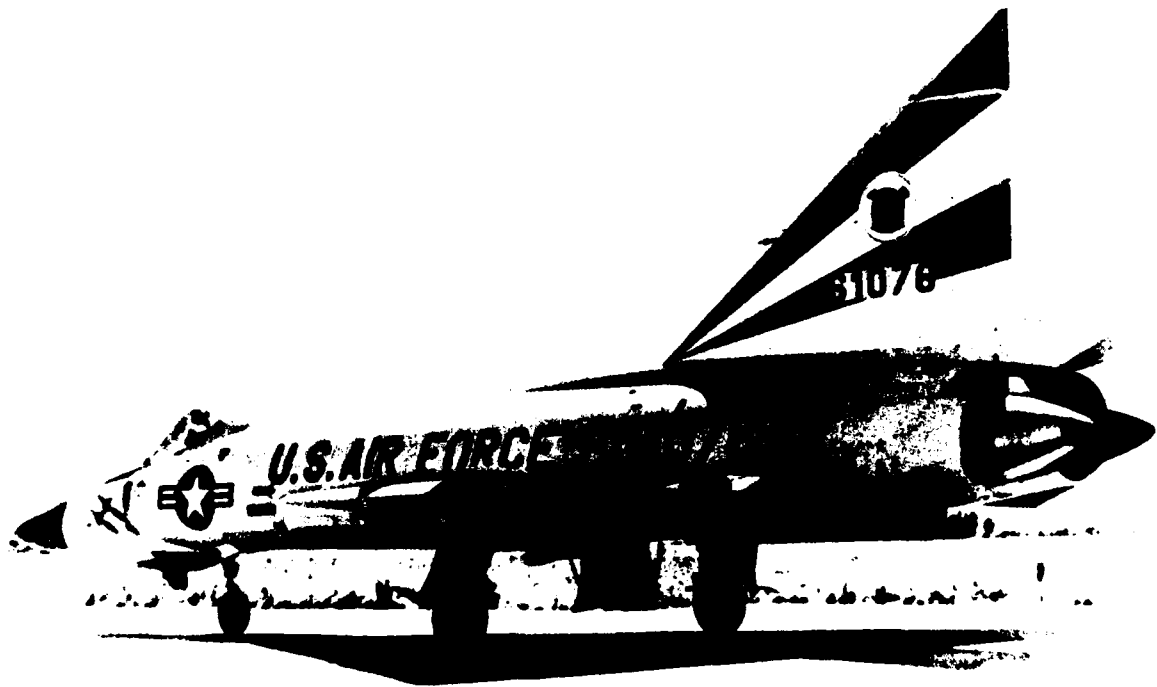


Figure 6. F-102 Delta Dagger

Converting the entire 86th started in January 1959 (024:Hq Tab), and lasted through November 1960, when the 513th and 514th FISSs inactivated while using the F-86D. This left the 86th with only the F-102 as its main weapon system. To make the conversion process as smooth and quick as possible, USAFE headquarters designated Wheelus AFB, Tripoli, Libya, as its conversion site (026:Hq Tab). Using Wheelus paid dividends as the pilots could concentrate solely on learning the F-102, and were free of the daily distractions which come from being at their home base. The biggest plus, however, was the clearer weather found in North Africa compared to the rapidly changing and predictably bad weather in Central and Northern Europe.

The biggest change to the 86th during the 1960s was not simply a new aircraft, but a whole new responsibility for the unit. In November 1960, the 86th Fighter Interceptor Wing was redesignated the 86th Air Division (Defense) when it assumed control of the 501st Tactical Control Wing and its responsibilities of the air defense system in the Federal Republic of Germany (FRG) and Central Europe (027:Foreword). This new responsibility called for its radar nets to provide positive electronic control in the FRG and through the air corridors to and from Berlin. The radar could probe beyond the Iron Curtain and should enemy aircraft approach or enter the Western Zone, aircraft from the 86th would launch, intercept, and destroy the intruder, if needed.

This lethal aspect of its responsibility often overshadowed another capability of the 86th, that of providing assistance to friendly aircraft which became disoriented or accidentally encroached upon the border. In such instances the 86th would notify the appropriate controlling agencies and attempt to steer the unsuspecting flyers away from the Iron Curtain. If radio communications failed, the 86th would launch its alert aircraft to intercept the offenders and point them back towards the Allied side of the border. There was usually no argument from the violators when the supersonic Delta Daggers coaxed them westward!

The volatility of the Iron Curtain was highlighted in 1964, with the loss of two US aircraft. Both were shot down after straying into East German airspace while flying outside the restrictive air corridors to and from Berlin. Their loss brought the implementation of new control procedures, and the establishment of a Central European Buffer Zone for USAF aircraft and German Buffer Zone for other Allied Air Forces military aircraft. In addition to these control procedures, Project Wind Drift established "improved communications and provided increased radar coverage with support depth and backup...for all aircraft operating within the FRG" (035:Commander's Tab).

Throughout the reorganization of the 86th and during the implementation of new control procedures, the 86th continued to train for its assigned task of air defense and maintained

its alert commitments. The 86th continued to visit Tripoli for aerial firing training after it had earlier been relieved of its alert commitment in North Africa, and discontinued Detachment One on 24 December 1959 (025:Hq Tab). The 86th was subsequently assigned forward alert responsibilities at Erding, deploying there 16 times with the F-102. Previously the home of the 440th FIS [which inactivated 1 January 1960], Erding was located in the southeastern region of the FRG. The move to Erding was in support of Operation Frelloc, which was designed to strengthen allied air defenses in southern Germany. Relatively close to the Czechoslovakian border, Erding provided better aircraft response time by eliminating the added distance from Ramstein to the Iron Curtain. In addition to the alert commitments and training at Tripoli and Erding, the 86th also deployed 16 times to Torrejon AB, Madrid, Spain, as well as numerous times to the Italian National Gunnery Range at Brindisi, Italy.

The 86th didn't always train alone, however. Quite often it participated in combined exercises with our NATO and European allies. Two such instances involved training and exchange of information with the French. In the spring of 1965, the 86th worked closely with the French at Drachenbronn AB, France, and the 4th Allied Tactical Air Forces (ATAF) at Ramstein, to set up an interface between the French automatic STRIDA II System, and the US 412L semi-automatic radar control and data net. The two systems were fully integrated

25 May 1965, providing an "automatic exchange of surveillance data between the two systems and a display of air activity for West Germany and northeastern France" (036:Commander's Tab). From 21-30 April 1965, the 526th FIS deployed six F-102 aircraft to Creil AB, France for high/low altitude intercept training for the French controllers. Additionally, the 86th went north for some of its exchange training. In August 1963, the 525th FIS sent six F-102 aircraft with air and ground crews to Gardermoen AB, Norway, for an exchange of training ideas. Two years later, from 27 April-6 May 1965, the 496th FIS took six F-102s to Skydstrup AB, Denmark, for the same type of allied mutual exchange (036:17).

While these exchanges did much to increase the knowledge and capabilities of the 86th, training exercises reaped additional benefits for the unit by exercising air defense procedures. The 86th exercised numerous times during the F-102 era. Some of the more significant exercises were Round Robin, Project Hardway, Tail Twist, Roulette, Max Effort, Dancing Doll, and Barking Pup (035:Commander's Tab). Each of these exercises focused on their own specific concerns; however, all of them evaluated the air defense and 412L semi-automatic system under combat conditions. The conversion to the semi-automatic air weapons control system lasted from January through March 1965, and relieved controllers of having to operate a manual system. Not wanting to immediately abandon the manual system, the 86th

used it for a short while as a backup and monitor for the 412L semi-automatic system (036:Commander's Tab).

While continuous training and deployments prepared the 86th to meet its air defense responsibilities, a more lively and measurable way of testing a unit's capabilities is through competition. The 86th participated in two significant competitions, William Tell 1963, and again in 1965. These annual weapons meets test the Air Force's finest air defense crews, allowing the units to compete against other units with similar weapon systems. The 526th FIS represented the 86th and USAFE in the 1963 meet, placing fourth in the F-102 category. A contributing reason for this disappointing finish may be the fact that the 526th was not able to bring its own aircraft and had to rely on aircraft provided (034:526th Tab). The 1965 meet resulted in a happier ending for the 86th, however, as the 32nd FIS took the top prize against other F-102 units. For this meet the 32nd took its own aircraft, as well its own Royal Netherlands (RNAF) controllers. Both represented firsts, and showed the true spirit of international cooperation present in the 32nd FIS (037:Commander's Tab).

A significant award garnered by the 86th was the recognition by the USAF of the 32nd FIS as the Best Air Defense Squadron in the Air Force. For its victory at the William Tell meet in 1965, winning the European Central Air Defense Competition, and for several outstanding ratings in

tactical evaluations and operational readiness inspections, the 32nd FIS received the Hughes Achievement Award in December 1966 (039:11).

While the 86th conducted very realistic flying training and represented USAFE well in competition, important developments also took place on the electronics side of the 86th Air Division. Beginning in the spring of 1961, the 86th included active communications jamming in all of its future tactical evaluation scenarios. The first units to receive and test this capability were the 526th FIS and the 602nd Aircraft Control and Warning (AC & W) Squadron. Additional training was provided for the radar crews as the 86th aircraft acted as targets for its AC & W teammates. By flying in and out of the radar coverage, the 86th aircraft gave the controllers opportunities for quality control sampling of their equipment and procedures (029:9).

Operationally, the supersonic F-102 was the most advanced aircraft used by the 86th to date. Its arrival to the 86th, however, was accompanied by an immediate impact on the maintenance and supply technicians.

#### MAINTENANCE/SUPPLY

The first Deuces had barely arrived in Europe when shortages of ground support equipment (GSE) foretold difficulties to come. The 525th and 496th FISS did not have all the GSE needed to fully support F-102 repairs. This shortage of equipment resulted in a backlog of man-hours



necessary to repair their aircraft to combat status. In the spring of 1960, the 86th was forced to request increased manning to meet its maintenance needs (026:4), pointing out what was all too obvious to the technicians in the 86th--the F-102 was more complex than the F-86D.

What the 86th and USAFE learned throughout the F-102 period was the Pratt and Whitney J57 engine was becoming a maintenance headache. While the engine had been very reliable over the years, it became increasingly unreliable because of flameouts, compressor stalls, oil system difficulties, accessory gearbox driveshaft failures, overtemperatures, and hot section problems (039:Safety Tab). Attempts to correct some of these difficulties included local improvements to the oil system to prevent oil starvation (031:Safety Tab), and installation of an improved fuel manifold to prevent manifold burn-through and subsequent engine fire (032:Safety Tab). Continuous efforts by the 86th, USAFE, and USAF headquarters ultimately discovered the "problem lies at depot level where reworked and used parts are reinstalled in the engines," and that "poor quality control [at the AF depot] contributed greatly to the problem" (039:14). Although not specifically designed to be a fix for the F-102 engine problems, preliminary discussions began in 1963, to study the replacement aircraft for the F-102, the F-110, which was later designated the F-4C (034:Dir Ops Tab). Throughout the time they used the F-102, the 86th continued

its efforts to cope with the engine problems. Periodically they would have some measure of success (037:22), but for the most part the engine continued to present problems and demand quality maintenance.

Even without its potentially disastrous engine problems, the F-102 presented headaches in other areas. The aircraft drag chute experienced numerous failures to deploy or would inadvertently release. Some of the causes were poor system design and a shortage of pilot chutes which extract the drag chutes. These problems forced the 86th to move pilot chutes from one aircraft to another, increasing the maintenance exposure and placing more demands on the overused components of the drag chute system. It wasn't until late 1967, that the 86th experienced some measure of success in battling the drag chute problem. During that particular reporting period the 86th had only 19 drag chute failures, less than half the number experienced in the preceding six month period (040:Commander's Tab).

The 86th had other areas of concern on the F-102, in particular the main landing gear (MLG). In November 1961, an F-102 ran off the runway when the left main gear strut failed during takeoff. Fortunately, the pilot escaped without injury, but the aircraft was completely destroyed by fire after the left wing fuel tank was pierced by shrapnel from the broken gear strut. This accident triggered an inspection throughout the F-102 fleet to find those gear struts which

may be susceptible to failure. The 86th alone found 28 struts which exceeded the engineering limits for continued safe use (030:Safety Tab), and changed the struts prior to the next flight of the affected aircraft.

Maintenance difficulties were not always the result of hardware failure, or faulty component design. In late 1962, while the 86th was implementing AFM 66-1, Maintenance Management Procedures, problems arose with the maintenance technical orders (TOs) and the communications equipment components. After the aircraft control and warning squadrons became part of the 86th Air Division, members of the 86th discovered that many of the components had no work unit codes (WUCs) in the TOs. These codes were important time savers, helping speed reference to the affected components and allowing the supply system to respond quicker. To counter this deficiency, the 86th technicians devised their own WUCs and submitted them to headquarters for approval. This process is not quick and easy, and until the system was approved and then distributed to all users, maintenance and supply personnel had to hand track the movement of repair parts for many of the communications items. A slow and laborious process, it ultimately paid dividends when the TOs were revised with the new WUCs (032:Comm-Elec Tab).

These maintenance and supply difficulties may suggest the F-102 was more problems than it was worth and the 86th should have been happy to get rid of it. However, the fact remains

that the F-102 was a formidable weapon system despite the amount of maintenance it required. As any maintenance person will say, "it's honest labor," and that's exactly what it took to keep the F-102 in the air.

#### COMMUNITY RELATIONS

Throughout the F-102 period the 86th continued to meet its responsibilities as a visible representative of the United States government on foreign soil. It conducted the usual base tours, static displays, aerial demonstrations, open houses and orientation lectures. One 86th unit, the 32nd FIS at Camp New Amsterdam, the Netherlands, was very much aware of its position as a US guest in a foreign country, for it was the only USAF unit under operational control of a foreign government (033:Off of Info). In its unique position as an allied air defense unit in the Netherlands, it abided by the rules of the Dutch authorities, flying when and where authorized by the Dutch. The victory by the 32nd FIS in the F-102 category at the 1965 William Tell meet pointed out the winning relationship the 32nd enjoyed with the Netherlands; a relationship which is still going strong as this paper is written.

Perhaps because they were located in relatively isolated areas or adjacent to smaller communities, the aircraft control and warning squadrons exhibited limited community relations activities. A notable exception, though, was the

604th AC & W Squadron, which shared the Vimy Kaserne (German for barracks) at Freising with the German Air Force (GAF). Every year since 1948, Vimy Kaserne has celebrated a German-American Friendship Week. This long tradition included open houses with static displays of equipment used by the USAF and GAF, and by our two armies. Also included throughout the week were band concerts, picnics, dances, and athletic contests, as well as civic, cultural, and religious activities (033:Off of Info).

While some units enjoyed good community relations by publicizing their activities locally, the 526th FIS at Ramstein AB had its story told to the world community when it was featured in a National Geographic article on American airpower in September 1965. The article focused on the alert response and followed the primary alert crews from their quiet interview with the magazine reporter, through the blaring alarm klaxon, to their launch in hot pursuit of the "stray airplanes that might mean trouble" (038:336).

It's important to recognize attempts to build good relations with our foreign hosts, but this section of Community Relations would not be complete without mentioning the sacrifices of our personnel while overseas. In 1961, the 151st and 197th FISs were called to active duty from National Guard status, assigned to the 86th, and stationed at Ramstein. During the eight months of their assignment in Europe there were numerous announcements from Washington that

these units would be allowed to return home. The promise of an early return did not materialize, and this proved to be very detrimental to unit morale. It also compounded many personally frustrating and aggravating situations. Many of the Guardsmen, particularly in the enlisted ranks, were pulled from their higher paying civilian jobs and had to rely on their military pay for family income. This reduced income had a detrimental effect on those members with families to support back in the States. In at least four situations, airmen's wives were forced to abandon their homes and move in with relatives (031:197th FIS Tab). There can be no argument about this being an unfortunate situation for members trying to serve their country while alone and far away.

The 86th Fighter Interceptor Wing began in 1948, and established itself as a formidable foe for the protection of our way of life. Consider the sacrifices made over the years by those required to serve far from home. Consider also the ultimate price paid by the many 86th airmen who died while wearing our nation's uniform. Finally, consider what the world situation would be without units such as the 86th. Between 1948 and 1968 the 86th never saw combat or fired a shot in anger. Perhaps, just perhaps, all the sacrifice, training, deploying, and exercising by the 86th will continue to payoff, and they'll never have to fire that shot.

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## APPENDICES

### LINEAGE OF 86th TACTICAL FIGHTER WING (First 20 Years)

1 July 1948 - 86th Fighter Wing  
20 January 1950 - 86th Fighter-Bomber Wing  
9 August 1954 - 86th Fighter-Interceptor Wing  
18 November 1960 - 86th Air Division (Defense)  
14 November 1968 - 86th AD (Defense) Inactivated

### COMMANDERS

1 July 1948 - Colonel Clarence T. Edwinson  
31 May 1949 - Colonel John S. Chennault  
16 June 1952 - Colonel George R. Bickell  
19 January 1955 - Colonel James O. Beckwith  
8 June 1956 - Colonel Albert L. Evans, Jr.  
9 June 1958 - Colonel James W. Little  
30 June 1958 - Colonel Charles M. Young  
4 July 1959 - Colonel Robert J. Rogers  
15 March 1961 - Colonel George W. Rogers  
30 June 1961 - Brigadier General Frank W. Gillespie  
10 July 1964 - Brigadier General Thomas L. Hayes, Jr.  
12 January 1966 - Brigadier General James M. Vande Hey  
28 June 1967 - Brigadier General Richard N Ellis

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STATIONS

1 July 1948 - Neubiberg Air Base, West Germany

21 August 1952 - Landstuhl Air Base, West Germany  
(Later named Ramstein-Landstuhl Air Base, then  
Ramstein Air Base)

AIRCRAFT ASSIGNED

1948 - 1950	F-47 Thunderbolt
1950 - 1953	F-84 Thunderjet
1953 - 1960	F-86 Sabre
1959 - 1968	F-102 Delta Dagger

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